

Proposed High School Outline, Graduation Requirements and Course Descriptions

	GRADE 9	GRADE 10	GRADE 11	GRADE 12	REQUIRED TO GRADUATE	NOTES
ENGLISH	Classical Lit (1.0)	British Lit (1.0)	American Lit (1.0) AP Option	Modern Lit (1.0) AP Option	4	
MATH	Algebra 1 (1.0)	Geometry (1.0)	Algebra 2 (1.0)	Pre-calculus/ AP Statistics (1.0)	4	Algebra 1, Geometry, Algebra 2 required
	Geometry (1.0)	Algebra 2 (1.0)	Pre-calculus/ AP Statistics (1.0)	AP Statistics/AP Calculus (1.0)		
SCIENCE	Biology (1.0)	Chemistry (1.0)	Physics (1.0)	Advanced Science Course (1.0) AP Options	4	Three must have lab component; Biology, Chemistry, Physics
HISTORY	Western Civ 1 (1.0)	Western Civ 2 (1.0)	American Gov't (.5) Economics (.5)	American History (1.0) AP Option	4	World History, U.S. History, U.S. Gov., Economics
FINE ARTS					1	May be taken at any grade level
HOPE/P.E.	1.0				1	Preferred taken in Grade 9
REQUIRED ELECTIVES	English Composition (.5)			Moral Philosophy (.5)	.5	
				Senior Thesis (.5)	.5	
FOREIGN LANGUAGES	Latin I/III (1.0)	Latin II/IV or Spanish I (1.0)	Latin III/V or Spanish II (1.0)	AP Latin or Spanish II/Elective (1.0)	4	Two years of Latin, two years of Spanish, French or other modern language**
OTHER ELECTIVES				Modern European History (1.0) AP Option	2.5	
TOTAL					26	

- Students must achieve a proficient score on FSA English Language Arts 10th grade or standardized test scores that are concordant.
- Students will satisfy online course requirement through HOPE credit through Florida Virtual School. Students who meet requirement for HOPE waiver will complete an elective through Florida Virtual to meet the online course requirement.
- Students must pass EOC exams in applicable subjects (currently Algebra I) to receive high school credit towards graduation.
- **Latin courses in 7th and 8th grade can count towards two years of Latin high school graduation requirement. Students can continue with two more years of Latin, or complete two years of a modern language to meet four years of languages requirement.
- Students must have a 2.0 on a 4.0 scale based on all courses applied toward meeting graduation requirements.

Pineapple Cove Classical High School Core Course Descriptions

The following is a list of courses and their descriptions for the required core courses for Pineapple Cove Classical High School. These courses and descriptions are subject to change and represent an example of what may be taught at each level.

English (F.S. Section 1003.428(2)(a)1)

- Students will take four years of English including at least a separate half credit in composition in the ninth grade.
- The classes will follow the Great Books approach. That is, complete works of great literature will be read, not snippets from anthologies and only those books that have attained the status of classics. The books will be thoroughly read and discussed. The curriculum will not be a race through the all the Western canon just to say that the books have been read. Rather, the principle of less is more will be used so that students will have a deep knowledge of, for example, two or three Greek plays or two or three Shakespearean plays, not a superficial knowledge of ten of them.
- In English, the Socratic Method will govern most discussions. The Socratic Method is not a random asking of questions by a teacher who hardly knows the text himself or herself. Rather, it is a systematic questioning of the students about key passages and themes that requires students to think carefully about the story and to consider the insights that story offers into human nature. Foremost, great literature will be seen as moral, that is, showing the decisions characters must make in certain settings and crises that are either virtuous or vicious, just or unjust, and that consequently lead either to greatness or infamy, happiness or misery. Though the lessons may not be simplistic (no great story is), all great literature offers moral principles, from the *Iliad* to the *Aeneid*, to *Othello*, to *Huckleberry Finn*, to *To Kill a Mockingbird*.
- As a result, great literature at PCCA will be studied philosophically. Literature will be discussed as it has been written. Students will come to understand love and hate, victory and defeat, justice and injustice, beauty and ugliness, temperance and intemperance, courage and cowardice, and glory and shame—by reading and wrestling with the great stories and

characters of Western literature. Thus, they will gain insights into their own complex human souls and—we hope—be inspired to be great as well as good.

- Courses may include but are not limited to:
 - Classical Literature
 - Modern Literature
 - American Literature
 - British Literature
 - English Language
 - Composition
- Intensive and remedial courses will be offered including an Intensive Reading course for low-performing students as mandated by the State statute F.S1011.62(9).

Sample texts and readings for English courses:

CLASSICAL LITERATURE: Homer, *The Iliad*, *The Odyssey*; Sophocles, *Oedipus Rex*; Plato, *The Republic* (on justice, parts of the soul, the Cave, Homer, and the ideal state); Vergil, *The Aeneid*; Horace, select poems; Shakespeare, *Coriolanus*.

BRITISH LITERATURE: Shelley, *Frankenstein*; select tales from Chaucer, *Canterbury Tales*; Shakespeare, *Hamlet* and sonnets; Milton, *Paradise Lost* and poems; Jane Austen, *Persuasion*; Dickens, *A Tale of Two Cities*; Romantic poetry.

AMERICAN LITERATURE: Nathaniel Hawthorne short stories; Benjamin Franklin, *The Autobiography*; Ralph Waldo Emerson, essays and poems including “Self-Reliance”; Herman Melville, *Moby Dick*; Emily Dickinson, poems; Walt Whitman, *Leaves of Grass*; Mark Twain, *The Adventures of Huckleberry Finn* and short stories; twentieth-century short stories and poems, including Willa Cather, Flannery O’Connor, E. A. Poe, Robert Frost.

MODERN LITERATURE SEMINAR: Genesis 2 and 3; Ten Commandments; Plato, *Apology*; Nietzsche, *Thus Spoke Zarathustra*; Allan Bloom on Nietzsche; Dostoyevsky, *Crime and Punishment*; Conrad, *Heart of Darkness*. Senior thesis and oral examination.

COMPOSITION: This course intends to foster elements of good writing: clear analytical thinking; a substantial grasp of basic grammatical and stylistic elements, argumentation and grammatical analysis. Also covers revision of papers assigned in other classes, focusing on logical organization, clarity of expression, and depth of analysis.

Mathematics (F.S. Section 1003.428(2)(a)2)

- Similar to the lower school, students in grades 9-12 will (once staffing is established) have a common math block for the purpose of remediation and enrichment when appropriate. Students will be placed in math courses by ability rather than grade level. Students who are identified as needing severe remediation by state and school assessments in the middle and high grades will be offered small group instruction in an Intensive Math course.

- As with the other subjects, math will be taught in a traditional manner. In addition to acquiring the necessary understanding of math facts, students will also learn the real math behind the algorithm. In other words, students will not simply perform the various operations without understanding what those operations really mean. Thus, a theoretical or conceptual approach will be taken, enabling students to understand mathematics as do real mathematicians. This approach, which used to be common in America, is now standard in Asian countries. Singapore Math builds in these concepts and will be used in helping to create the math courses in high school.
- Courses may include but are not limited to:
 - Algebra I and II
 - Geometry
 - Pre-Calculus
 - Calculus
 - Statistics
- Students must pass EOC assessments in Algebra I to receive credit for course toward graduation.
- Advanced Placement courses will be offered in high school mathematics for advancement and students who require enrichment. This will allow advanced mathematics students the possibility of earning college credit in a challenging manner. Advanced Placement currently offers coursework in Algebra, Pre-calculus, Statistics, and Calculus. Pineapple Cove Classical Academy will evaluate the needs of our students to determine which AP courses to offer when appropriate.

Sample texts and topics for mathematics courses:

ALGEBRA I: Topics: linear equations, slope, intercepts, roots, absolute value equations, piecewise equations, vertices, quadratic equations, quadratic formula, systems of equations, systems of inequalities, irrational numbers, imaginary numbers, complex numbers, direct and inverse variation, factoring, completing the square, rational equations, trigonometric ratios, Pythagorean theorem, fundamental counting principle, permutation, combinations, probability, compound events, Pascal's triangle, and binomial theorem.

GEOMETRY: Topics: geometric proof, triangles, constructions, perpendicular lines and planes, parallel lines, polygons, inequalities, ratio and proportion, congruent and similar figures, areas and volumes, circles, prisms, and pyramids.

ALGEBRA II: Topics: the real number system, equations and inequalities, system of linear equations, factoring, algebraic fractions, quadratic equations, irrational numbers, radical equations, functions, graphs and variation, exponents and logarithms, introduction to the trigonometric functions, analytical geometry, equations of the second degree, polynomials, trigonometric equations, sequences and series.

PRE-CALCULUS: Topics: linear equations, functions, inverse functions, composite functions, graphs of functions, polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, analytical trigonometry, polar coordinates, vectors, conic sections, rotation of axes, polar equations of conics, systems of equations and inequalities, sequences, mathematical induction, the binomial theorem.

CALCULUS I: Topics: limits and continuity, derivatives, antiderivatives, definite and indefinite integrals, parametric functions, the fundamental theorem of calculus, the calculus of exponential and logarithmic functions, the calculus of growth and decay, the calculus of plane and solid figures, algebraic calculus techniques for the elementary functions, the calculus of motion. Students are required to take the AP Calculus AB exam.

CALCULUS II: Topics: intensive review of Calculus I, inverse functions, the calculus of exponential and logarithmic functions, inverse trigonometric functions, hyperbolic functions, integration by parts, other techniques of integration, the conic sections and polar coordinates, indeterminate forms, improper integrals, L'Hopital's Rule, Taylor's Formula, infinite sequences and series, tests for convergence, power series. Students are required to take the AP Calculus BC exam.

ADVANCED STATISTICS: Topics: data description and representation, sample and experiment design, probability, parameter estimation, hypothesis testing. Students are required to take the AP Statistics exam.

Science (F.S. Section 1003.428(2)(a)3)

- Students will take four years of science in the high school, two of which will have a laboratory component.
- Students must pass Biology EOC exam to receive credit for course toward graduation.
- As with mathematics, the classes will be based upon the study of one branch of science per year, the usual sequence being biology, chemistry, physics. For students entering the high school without a foundation in science, as that provided by the Core Knowledge sequence, a remedial science course may be constructed to give students the foundation they need to take biology and chemistry.
- While making sure that students master the essential facts of the sciences, teachers will still employ to some degree a conceptual approach to the study of science, often introducing a topic with an inquiry-based lesson or experiment. Students should gain a genuine understanding of the physical world. Thus, the goal is for students to be able to explain such complex scientific ideas and processes as genetic transmission, chemical bonding, atomic theory, force, and so on.
- Courses may include but are not limited to:
 - Biology I and Biology II
 - Chemistry I and Chemistry II
 - Physics I and Physics II
 - Other advanced science courses as appropriate

Sample texts and topics for science courses:

BIOLOGY I and II: Labs: inferring gender in fruit flies; use of compound microscope; organisms and pH; beaded pinase (simulation); diffusion and cell size; leaf disk assay; why doctors test urine; onion cell osmosis; understanding DNA structure and replication (simulation); protein synthesis (simulation); onion mitosis; corn dihybrid genetics; Wisconsin Fast Plant seed germination; flower

dissection; how viruses travel (simulation); using and formulating dichotomous keys; predator-prey relationship (simulation); comparative biochemistry (simulation); gene frequencies and natural selection (simulation); environmental factors.

CHEMISTRY I and II: Labs: density of pennies; observing a candle flame; average atomic mass simulation using pennies; spectral lines of gases; periodic table development simulation; analysis of mixtures using nuts and bolts; molecular models; chemical names and formulas; determining the empirical formula of magnesium oxide; molecular concepts; analysis of a hydrate; Charles' law and the derivation of absolute zero; Boyle's law; triple point of carbon dioxide; vapor pressure of water; heat of solution; freezing point depression with antifreeze; properties of acids and bases; acid-base indicators; titration to determine percentage of acetic acid in vinegar; activity series of elements.

PHYSICS I and II: Labs: freezing and melting of water; picket fence free fall, ball toss from ramp into bucket, motion profile of tossed ball, forces as vectors, static and kinetic friction, bungee jump acceleration, Boyle's law, the pendulum and simple harmonic motion, speed of sound, images and mirrors, optical properties of convex lenses, measuring the wavelength of a laser, electrostatics, Ohm's law, series and parallel circuits, energy storage in a capacitor, RC circuits, electrical energy and the efficiency of motors, building a motor.

History (F.S. Section 1003.428(2)(a)4)

- Students will take four years of history including one half credit in both government (.5 credit) and economics (.5 credit).
- Though textbooks may be used to give students the background narrative of any historical period, the course will mostly be taught through the study of primary source documents.
- The overarching principle governing the study of history will be human beings' attempts to achieve both freedom and justice in a constitutional regime, in short, self-government. Further, history will explore human beings' great conflicts and achievements. A great deal of attention will be given to the Western and American political, religious, intellectual, cultural, and economic traditions.
- Courses may include but are not limited to:
 - Western Civilization I and II
 - United States History to 1900
 - Modern European History
 - 20th Century United States History

American Government (F.S. Section 1003.428(2)(a)4)

- Civic education is fundamental to the mission of the classical school. At least one semester of government will be taught in the high school, normally in the junior year, while other electives in political philosophy may be offered as well.
- As in the eighth-grade history class, the government class in high school will be centered on the Constitution. Since the students in high school will be at a much higher reading level, the class will, in addition to the Constitution, read supporting documents such as debates from

the Constitutional Convention, The Federalist Papers, important Supreme Court cases, and the speeches of American political figures reflecting upon the Constitution.

- Students must pass the Civics EOC exam and U.S. History EOC exam to receive high school credit for those courses.
- Particular attention will be given to the original intent of the Framers of the Constitution by seeking to understand why they created a federal government with a separation of powers; limits upon the executive; a bicameral legislature with different terms and only one branch derived directly from the people; a system known as federalism with national, state, and local governments having different spheres of action; a list of enumerated powers; a bill of rights, and so on.
- As in the history classes, a textbook may be used, particularly in order to familiarize students with the nuts and bolts of American politics (how a bill becomes a law, the party system, etc.), yet the course as a whole will be taught through original sources.

Economics (F.S. Section 1003.428(2)(a)4)

- Students will take one semester of economics, normally in the junior or senior year.
- The economics class will explore the basic principles of free markets: supply and demand, the division of labor, pricing, and incentives. Aspects of both micro and macroeconomics will be taught. The course may employ a textbook but will not be driven by a textbook approach. The fundamental idea behind the class is that man is an economic being: he is disposed to invent, build, and sell things in order to better his environment and improve his lot in life.
- The relations between the market and the political regime will be explored, taking up the important question of what human efforts and enterprises should be performed by government and which should be performed by the free market.
- Just as in the government class, the ideas of a contemporary of the Founders, Adam Smith, will serve as a significant beacon in understanding economics.

Sample texts and topics for history courses:

WESTERN CIVILIZATION I: Herodotus, *The History*; Plutarch, *The Lives of the Noble Greeks and Romans*, select lives esp. Lycurgus, Solon, Themistocles, Pericles, Alcibiades; Thucydides, *The Peloponnesian War*; Aristotle, *Politics*; Plato, *Republic*; selections from Livy; Plutarch's Lives: Marius, Sulla, Caesar.

WESTERN CIVILIZATION II: Tacitus, *Germania*; Augustine, *Confessions and City of God* (selections on the two cities); The Rule of Saint Benedict; Einhard, *Life of Charlemagne*; feudal oaths; Walter Scott, "Chivalry"; documents from the Investiture Conflict; documents from the Crusades; Life of St. Francis (selections). Thomas Aquinas, *Summa Theologica* (selections). Selections from Petrarch's letters; Vergerius, "On Liberal Learning"; introduction to the Decameron. Art of Donatello, da Vinci, Michelangelo. Machiavelli, *The Prince*. Erasmus and Luther on freedom of the will; other Reformation documents. Various enlightenment authors including Locke, Smith, and Rousseau.

UNITED STATES HISTORY TO 1900: Tindall and Shi, *America*; Richard Hofstadter, *Great Issues in American History (vols. 1-3)*; The Mayflower Compact; Cotton, Answers to Queries from English Puritans; documents on the Great Awakening; Paine, *Common Sense*; Inglis, *The True Interest of America*; The Declaration of Independence and U. S. Constitution; Hamilton, *Report on the Public Credit*; Jefferson, *On Agriculture*; Washington, *Farewell Address*; Jay's Treaty; Monroe, 1823 Message to Congress (Monroe Doctrine); Calhoun, *On Nullification*; Stowe, *Uncle Tom's Cabin*, selections; Clay, Calhoun, Webster on the Compromise of 1850; Lincoln and Douglas on popular sovereignty; Lincoln, "Gettysburg Address," "Second Inaugural." Further documents on topics of Progressivism and America's rise to global power, World Wars I and II, the Depression, and the Cold War.

MODERN EUROPEAN HISTORY: R. R. Palmer, *A History of the Modern World*. Sources: Rousseau, *Discourse on Inequality and Social Contract* (selections); Sieyès, *What is the Third Estate?*; Deliberations of the Estates General; Declaration of the Rights of Man and of the Citizen; selections from Burke and Paine. Marx and Engels, *The Communist Manifesto*; Lenin, *State and Revolution*; Ortega y Gasset, *Revolt of the Masses*. Other documents in 19th and 20th century European history on following topics: Napoleon, economic and political liberty, Revolutions of 1848, German unification, imperialism, nationalism, World War I, World War II, the Cold War in Europe.

AMERICAN GOVERNMENT: Sources: The U.S. Constitution; Madison, Hamilton, and Jay, *The Federalist* (selections); selections from Anti-Federalist authors such as Brutus, Federal Farmer, and Agrippa. Course also addresses landmark Supreme Court decisions (e.g., Dred Scott, McCulloch, Marbury, et al.), and addresses introductory elements of constitutional law.

INTRODUCTION TO MICRO/MACRO ECONOMICS: Gregor Mankiw, *Essentials of Economics*. Articles from *The Economist* and *The Wall Street Journal*.

Spanish and other modern languages will also be taught, with Spanish grammar and vocabulary introduced in elementary and full courses offered as electives in the middle and high school. Studying modern languages will solidify students' knowledge of their own language, enable them to gain insight into different cultures, afford the opportunity of reading the rich literature of other nations, and prepare young people to communicate in a complex world and participate in the global economy. The language requirements of PCCHS will meet Florida state standards and be in line with college expectations.